A guide for the radiotelephone operator

Restricted Certificate — Maritime Voluntary

Canada

Government of Canada
Department of Communications

Gouvernement du Canada
Ministère des Communications

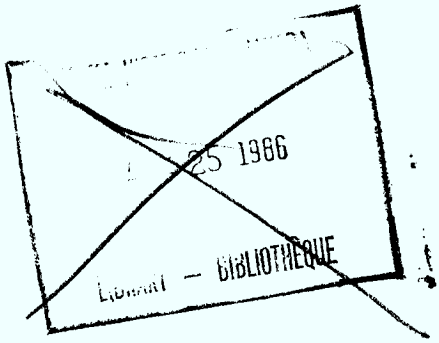
Phonetic alphabet

Letter	Word	Pronounced as
A	Alfa	AL FAH
B	Bravo	BRA VOH
C	Charlie	CHAR LEE or SHAR LEE
D	Delta	DELL TAH
E	Echo	ECK OH
F	Foxtrot	FOKS TROT
G	Golf	GOLF
H	Hotel	HOH TELL
I	India	IN DEE AH
J	Juliett	JEW LEE ETT
K	Kilo	KEY LOH
L	Lima	LEE MAH
M	Mike	MIKE
N	November	NO VEM BER
O	Oscar	OSS CAH
P	Papa	PAH PAH
Q	Quebec	KEH BECK
R	Romeo	ROW ME OH
S	Sierra	SEE AIR RAH
T	Tango	TANG GO
U	Uniform	YOU NEE FORM or OO NEE FORM
V	Victor	VIK TAH
W	Whiskey	WISS KEY
X	X-ray	ECKS RAY
Y	Yankee	YANG KEY
Z	Zulu	ZOO LOO

Note: The syllables to be emphasized are underlined.

A guide for the radiotelephone operator

Restricted Certificate — Maritime Voluntary



Cat. No. Co22-66/1-1986E
ISBN 0-662-14585-2

Foreword

This handbook has been prepared for the benefit of those persons seeking to obtain a Radiotelephone Operator's Restricted Certificate (Maritime Voluntary).

Generally speaking, operators of marine radiotelephone equipment on vessels under twenty metres in length and operators of land (coast) stations which are licensed to use maritime mobile (marine) frequencies, must possess a Radiotelephone Operator's Restricted Certificate (Maritime Voluntary).

The procedures outlined here are based on those formulated by the International Telecommunication Union (ITU) and on the regulations governing the use of radio in Canada as outlined in the General Radio Regulations, Parts I and II, set out under the Radio Act of Canada.

Inquiries concerning the contents of this handbook, including suggestions for improvement, may be directed to any office of the Department of Communications.

Contents

Distress, urgency and safety

Alarm signals

General electronic information

Appendix 1

Appendix 2

General information

Application

Application to be examined for the Radiotelephone Operator's Restricted Certificate should be made to the nearest office of the Department of Communications. Addresses for the Department of Communications' regional and district offices are listed in Appendix 1.

Examinations may be held at departmental district offices or at locations suitable for examination purposes.

Candidate requirements

The examination may consist of written, practical and oral exercises. The candidate shall be required:

- To satisfy an examiner that he or she is capable of operating modern radiotelephone equipment.
- To satisfy an examiner that he or she possesses a general knowledge of radiotelephone operation procedures, international regulations applicable to radiotelephone communications between stations, and specifically those regulations relating to the safety of life.
- To satisfy an examiner that he or she possesses a general knowledge of the Radio Act and the regulations made thereunder.

Eligibility

Nationality

A candidate for a Radiotelephone Operator's Restricted Certificate examination shall normally be a Canadian citizen or a landed immigrant within the meaning of the Immigration Act.

Age

There is no age limit.

Physical

A candidate's hearing shall not be less than 75 per cent of normal in both ears. Candidates with less than normal hearing may be considered under special conditions.

Documentation

Nationality status

Candidates may be asked to bring one or more of the following documents to the examination: birth certificate, Certificate of Canadian Citizenship, Canadian Immigration Identification Card, Declaration of Nationality Status.

Radio legislation

Radio station licences

Unless otherwise exempted, all radio stations in Canada must be licensed by the Minister of Communications. The licence (or copy thereof) must be posted in a conspicuous place near the radio equipment.

The radio station licence generally specifies the call sign assigned to the station, the frequencies to be used for transmitting, the type of radio equipment authorized and any special conditions under which the station should be operated.

To obtain a Radio Station Licence, a completed licence application form with the prescribed fee should be submitted to the Department of Communications (DOC). The application is then processed and a licence is forwarded to the licensee by departmental headquarters in Ottawa. (Station licence application forms are available from any DOC district office).

To be eligible for licensing in Canada, radiotelephone equipment must be type approved or found to be technically acceptable for licensing by the department. The DOC type approval number is a 9-digit number appearing on a label affixed to the radio (usually at the back of the set) and assures the purchaser or owner of the radio equipment that it meets Canadian Technical Standards. Therefore, before purchasing a radiotelephone, ensure that it is labelled with the DOC type approval number or that it has been granted technical acceptability by the DOC.

Station licence fees are due on April 1 of each year. Billing notices are mailed to licensees directly from departmental headquarters in Ottawa.

Note: Any person who establishes a radio station without the benefit of a radio licence is liable, on summary conviction, to a penalty of up to twenty-five hundred dollars ($2,500.00), or to imprisonment for a term not exceeding twelve months.

Inquiries concerning radio licensing may be directed to any of the district offices of the Department of Communications. A sample licence is provided in Appendix 2.

Radio operator's certificate requirements

Canada is a member of the International Telecommunication Union (ITU), the international organization established to provide standardized communication procedures and practices, frequency allocation and radio regulations on a worldwide basis.

The ITU establishes the minimum conditions to be imposed for obtaining the various classes of radio operator certificates. The Department of Communications administers telecommunications in Canada, based upon both national and international acts, regulations and conventions.

A Radiotelephone Operator's Restricted Certificate (Maritime Voluntary) is required by the operator of radiotelephone equipment on all vessels under twenty metres in length and private land (coast) radio stations using maritime mobile frequencies. The radiotelephone equipment at such stations shall be of a type that requires only simple external switching with a power output not exceeding 1500 watts (peak envelope power) and all frequency-determining elements must be preset within the transceiver.

At present, radiotelephone operator's restricted certificates are issued for life and no validation is required. Please contact the nearest district office if your certificate is lost or requires replacement.

Control of communications

As a general rule, except in cases of priority communications, the control of radiocommunications between a coast station and a ship station lies with the coast station.

In communications between coast stations and ship stations, the ship station shall comply with instructions given by the coast station in all matters relating to the order and time of transmission, the choice of frequency and to the duration and suspension of work.

In communications between ship stations, normally the station called is the controlling station. If the station called is in agreement with the calling station, it shall transmit an indication from that moment onwards that it will listen on the working frequency or channel announced by the calling station.

However, if the station called is not in agreement with the calling station on the working frequency or channel to be used, it shall transmit an indication of the working frequency or channel to be used.

Examples —

- Coast station calling a ship (the coast station has control of radiocommunications).

  Sea Fox VC-4331,
  This is
  Halifax Coast Guard Radio.
  Go Ahead on Channel 26.
  Over.

- Ship calling a coast station (the coast station has control of radiocommunications).

  Halifax Coast Guard Radio,
  This is
  Sea Fox VC-4331.
  On Channel 16.
  Over.

- One ship to another ship (the ship being called has the control of radiocommunications).

  Sea Fox VC-4331,
  This is
  Sandpatch VY-1234.
  Over.

  Sandpatch VY-1234,
  This is
  Sea Fox VC-4331.
  Change to Channel 69.
  Out.

The operation of a radio station is under the control of the person or persons in charge of the station.

Note: In the cases of distress and urgency communications, the control of the communications lies with the station initiating the priority call.

Superfluous communication and interference

Profane and obscene language is strictly prohibited

Penalty — Any person who violates the regulations relative to unauthorized communications or profane language is liable, on summary conviction, to a penalty not exceeding one thousand dollars ($1,000.00) and costs, or to imprisonment for a term not exceeding six months.

Unnecessary or superfluous transmissions

Unnecessary or superfluous transmissions are not permitted. Communications should be restricted to those necessary for the safe movement of vessels.

Penalty — Any person who, without lawful excuse, interferes with or obstructs any radiocommunication is guilty of an offence. That person is liable, on summary conviction, to a fine not exceeding twenty-five hundred dollars ($2,500.00) and costs, or to imprisonment for a term not exceeding twelve months, or to both.

False distress signals are strictly prohibited

Penalty — Any person who knowingly transmits or causes to be transmitted any false or fraudulent distress signal, call or message is guilty of an offence and is liable, on summary conviction, to a penalty not exceeding twenty-five hundred dollars ($2,500.00) and costs, or to imprisonment for a term not exceeding twelve months, or to both.

Interference

All radio stations shall be installed and operated so as not to interfere with or interrupt the working of another radio station.

The only situation under which you may interrupt or interfere with the normal working of another station is when you are required to transmit a higher priority call or message, for example, distress, urgency or safety calls or messages.

Communications priorities

The order of priority for radiocommunications:

1. Distress communications.
2. Urgency communications.
3. Safety communications.
4. Communications relative to direction-finding bearings.
5. Communications relative to the navigation, movement and needs of aircraft engaged in search and rescue operations.
6. Messages containing exclusively meteorological (weather) observations destined to an official meteorological office.
7. Communications related to the application of the United Nations Charter.
8. Service messages relative to the working of the radiocommunications service or to messages that have been previously transmitted.
9. All other communications.

Watchkeeping

Ships voluntarily fitted with radiotelephone equipment should endeavour to keep watch on the frequency 156.800 MHz (Channel 16 VHF) and/or 2182 kHz, to the greatest practicable extent when at sea.

Ships that are required by law to be fitted with radiotelephone equipment (compulsorily fitted) must keep a continuous watch on the frequency 2182 kHz and/or 156.800 MHz (Channel 16 VHF) or other frequencies specifically designated on their licences when at sea except when actually engaged in conducting communications on their working frequencies.

For compulsorily fitted vessels, the very high frequency (VHF) regulations state that watchkeeping on the VHF band must begin at least 15 minutes before the vessel leaves its dock or place of mooring. The regulations also state that this watch on Channel 16 (156.800 MHz) shall not be terminated until the vessel is securely anchored or moored.

There are precautions that must be observed when using radiotelephone equipment while your vessel is in port or navigating near coast stations. The regulations governing the use of the transceivers in and around ports and coast stations state that the VHF transceiver will be used in the 1-watt position when in port. Medium frequency (MF) equipment will not be used in port or near a coast station without first obtaining permission from the coast station involved.

Radio silence periods

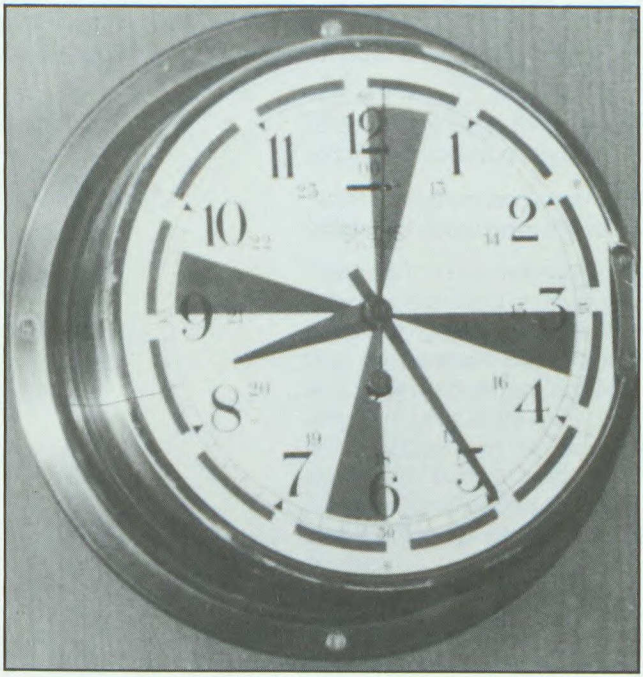
Unless in a distress or urgent situation, all stations fitted with the international distress, safety and calling frequency of 2182 kHz must maintain radio silence while guarding 2182 kHz for three minutes twice each hour.

The radio silence periods start on the hour and continue until three minutes past the hour, and on the half hour, until thirty-three minutes past the hour.

The purpose of radio silence periods is to ensure that ships in distress will have a better chance of being heard by other ships and Coast Guard Radio Stations.

During silence periods, stations should increase their receiver volume controls while guarding 2182 kHz in order to hear weak distress signals.

Radio silence periods are not required to be maintained on the VHF international distress, safety and calling frequency of 156.800 MHz (Channel 16).

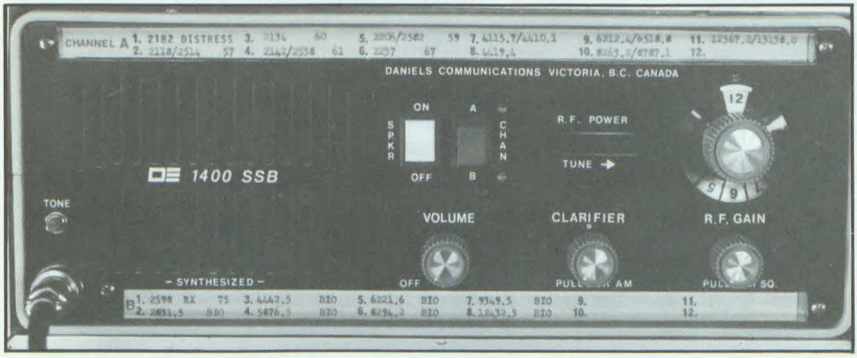


Secrecy of communications

Radio operators and all persons who become acquainted with radio-communications are bound to preserve the secrecy of correspondence. No person shall divulge the contents, or even the existence, of correspondence transmitted, received or intercepted by a radio station, except to the addressee of the message or his accredited agent, or the properly authorized officials of the Government of Canada or a competent legal tribunal, or an operator of a telecommunications system as is necessary for the furtherance of delivery of the communication. The foregoing restrictions do not apply to a message of distress, urgency, safety or to messages addressed to "All Stations," that is, weather reports, storm warnings, etc.

Any person who violates the secrecy of correspondence is liable, on summary conviction, to a penalty not exceeding twenty-five hundred dollars ($2,500.00), or to imprisonment for a term not exceeding twelve months, or to both.

Radiotelephone controls



Radiocommunication equipment is very complex in design and in operation. The following descriptions provide a basic outline of standard face plate controls.

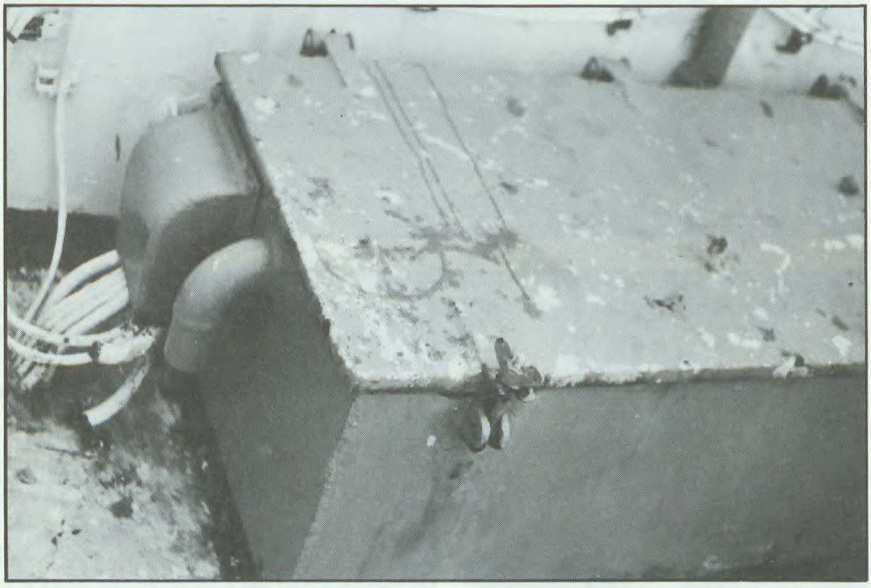
Channel selector	Selects the specific frequency that is to be transmitted or received.
On/off and volume control	Turns the set on and controls the volume of audio from the receiver.
Squelch control	Controls the receiver squelch circuit. When operating a receiver on a fixed frequency over an extended period of time the constant background noise and undesired distant signals can be very annoying. A squelch circuit automatically cuts off undesired distant signals and background noise. The squelch circuit allows local signals to be amplified and passed through the audio circuits.

VHF—Power selection	Switches the VHF transmitter from its high output power of 25 watts to its lower power setting of 1 watt. The switch is designed so that the transmitter is set in either the 1-watt or the 25-watt position.
MF/HF—Noise limiter	Used when the incoming signal is accompanied by an unusual amount of noise. This switch activates an internal circuit that reduces or limits the amount of noise received and thus heard from the speaker.
RF gain control	Some transceivers have a separate radio frequency (RF) gain to control the amplitude of the incoming signal.

Lead acid storage batteries

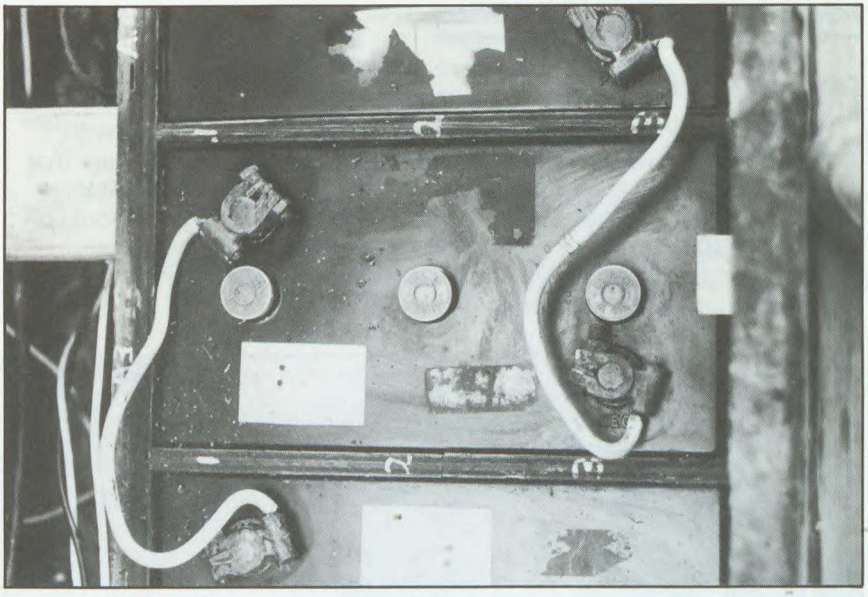
Care and maintenance

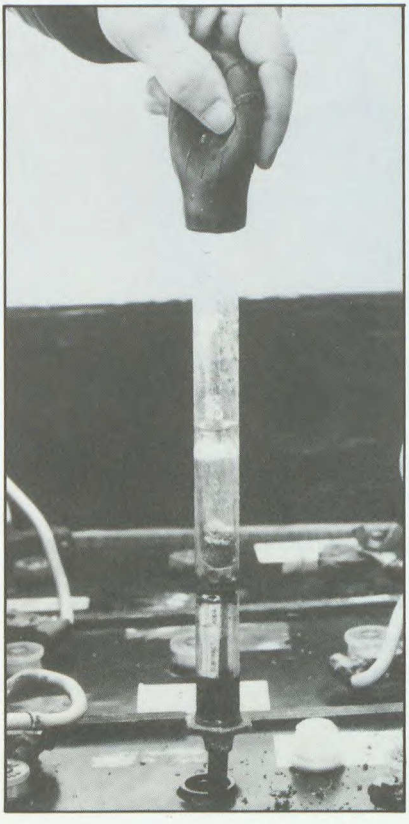
Lead acid storage batteries are used extensively as a source of primary and/or emergency power for radiotelephone equipment. It is important that they be fully charged at all times. The batteries should be kept in a suitable location designed to protect the batteries from the elements. They should be readily accessible for routine, as well as emergency, maintenance. This compartment should be ventilated, and if installed within the vessel, the battery compartment should be vented to the outdoors.



In order to ensure that maximum energy will be obtained from storage batteries, the recommended procedures for care and maintenance are listed below:

- Electrolyte (battery acid) should be kept about ¼ inch above plates by adding pure (distilled) water when needed.
- Batteries should be frequently checked. Use a hydrometer and voltmeter to determine state of charge. The typical specific gravity for a fully charged cell is 1.250-1.280. For a fully discharged cell it is 1.200 or less.
- Keep exterior dry and terminals clean and coated with vaseline or other suitable lubricant to prevent corrosion on the posts.





- Keep all connections tight and clean.
- Daily voltage readings should be taken. The full load/no load voltage readings should not differ by more than five per cent (5%). For example, in the battery bank, if the voltage with no load is 24 volts, then the voltage under full load should be no less than 22.80 volts.

Hazards

The following precautions should be observed when storage batteries are being charged or discharged, whether in large banks or singly:

- Charge or discharge in a well ventilated space to dissipate the hydrogen gas which develops when the batteries are in use.
- Keep open flames and sparks away from the batteries.
- If the batteries are equipped with gassing caps, remove the battery caps during charging to allow the hydrogen gas to escape.
- Do not make or break any electrical connections while the batteries are charging or gassing. Making or breaking electrical connections will produce sparks!

The hydrogen gas produced by batteries is extremely explosive. Failure to observe the above precautions may cause the gas to ignite, creating an explosion with potentially disastrous results.

High charge rate

A high charge rate occurs when a battery is charged very quickly over a short period of time. Most battery chargers have two settings, trickle charge and full charge. A trickle charge is used to keep a battery at full charge as it is being used. It is a slow continuous charge mode. Full charge is used to charge the battery from a low state of charge to full or nearly full charge in a short time. It should be used very conservatively.

High discharge rate

A high discharge rate occurs when a battery is discharged from a fully or nearly fully charged state over a very short time period. A prime example would be a short between the positive and negative post or when the battery is under heavy load.

Note: Both high charge and discharge rates invite potential disaster. The battery under either of the above conditions produces an abundant amount of hydrogen gas and a significant heat build-up. The smallest spark could initiate an explosion.

Operating procedure

Numbers

0 — zero	6 — six
1 — one	7 — seven
2 — two	8 — eight
3 — three	9 — nine
4 — four	decimal
5 — five	thousand

All numbers except whole thousands should be transmitted by pronouncing each digit separately. Whole thousands should be transmitted by pronouncing each digit in the number of thousands followed by the word "thousand."

10 becomes — one zero
75 becomes — seven five
100 becomes — one zero zero
5,800 becomes — five eight zero zero
11,000 becomes — one one thousand
68,009 becomes — six eight zero zero nine

Numbers containing a decimal point should be transmitted as above, with the decimal point indicated by the word "decimal."

121.5 becomes — one two one decimal five

Monetary denominations, when transmitted with groups of digits, should be sent in the sequence in which they are written.

$17.25 becomes — dollars one seven decimal two five
.75 becomes — seven five cents

Signal checks

When your radio station requires a signal (or radio) check, follow this procedure:

1. Call another ship station or a coast station on Channel 16 (156.800 MHz) or 2182 kHz and request that station to change to a working channel or frequency.
2. Establish contact on the working channel or frequency and conduct your signal check.
3. The signal check consists of "signal check, 1, 2, 3, 4, 5. How do you read me? Over."
4. Your station identification (vessel name and call sign) should be transmitted during such test transmissions.
5. Signal checks should not last more than 10 seconds.
6. When replying or receiving a reply to a signal check, the readability scale should be used.

The station that has been requested to provide the signal report should reply using the following readability scale:

1 = Bad (unreadable)
2 = Poor (readable now and then)
3 = Fair (readable but with difficulty)
4 = Good (readable)
5 = Excellent (perfectly readable)

Example —

Call	Vancouver Coast Guard Radio. This is Pacific High CY-2632 On Channel 26. Signal check, 1, 2, 3, 4, 5. Over.
Response	Pacific High CY-2632. This is Vancouver Coast Guard Radio. Readability of 4. Out.

Time

The twenty-four hour clock system should be used in expressing time in the Maritime Mobile Service. It should be expressed and transmitted by means of four figures, the first two denoting the hour past midnight and the last two the minutes past the hour.

Some examples of time using the twenty-four hour clock system are shown below:

12:45 a.m.	is expressed as 0045
12:00 noon	is expressed as 1200
12:45 p.m.	is expressed as 1245
12:00 midnight	is expressed as 2400 or 0000
1:30 a.m.	is expressed as 0130
1:45 p.m.	is expressed as 1345
8:30 p.m.	is expressed as 2030

Co-ordinated Universal Time (UTC) (previously known as Greenwich Mean Time — GMT) is normally used in radiocommunications, and the letter Z is an accepted abbreviation for UTC, for example — 0520Z, 2140Z. However, where operations are conducted entirely within one time zone, standard time may be used. Care should be taken to clearly indicate the time zone involved, for example — 1335E (for Eastern Standard Time), 2214M (for Mountain Standard Time). Daylight Saving Time should not be used.

Time zone comparison

NST Newfoundland Standard Time
AST Atlantic Standard Time
EST Eastern Standard Time
CST Central Standard Time
MST Mountain Standard Time
PST Pacific Standard Time

To convert from Co-ordinated Universal Time to local standard time look opposite UTC under the appropriate column below. For corresponding Daylight Saving Time, add one hour.

UTC	NST	AST	EST	CST	MST	PST
0100	2130	2100	2000	1900	1800	1700
0200	2230	2200	2100	2000	1900	1800
0300	2330	2300	2200	2100	2000	1900
0400	0030	0000	2300	2200	2100	2000
0500	0130	0100	0000	2300	2200	2100
0600	0230	0200	0100	0000	2300	2200
0700	0330	0300	0200	0100	0000	2300
0800	0430	0400	0300	0200	0100	0000
0900	0530	0500	0400	0300	0200	0100
1000	0630	0600	0500	0400	0300	0200
1100	0730	0700	0600	0500	0400	0300
1200	0830	0800	0700	0600	0500	0400
1300	0930	0900	0800	0700	0600	0500
1400	1030	1000	0900	0800	0700	0600
1500	1130	1100	1000	0900	0800	0700
1600	1230	1200	1100	1000	0900	0800
1700	1330	1300	1200	1100	1000	0900
1800	1430	1400	1300	1200	1100	1000
1900	1530	1500	1400	1300	1200	1100
2000	1630	1600	1500	1400	1300	1200
2100	1730	1700	1600	1500	1400	1300
2200	1830	1800	1700	1600	1500	1400
2300	1930	1900	1800	1700	1600	1500
0000	2030	2000	1900	1800	1700	1600

Date

Where the date, as well as the time of day, is required to be shown, a six (6) figure group should be used. The first two figures indicate the day of the month, the following four figures indicate the time.

Example —

Information :	Expressed :
Noon on the 16th day of the month (EST)	161200E
2:29 p.m. AST (expressed in UTC) on the 2nd day of the month	021829Z
2:45 a.m. (Atlantic Standard Time) on the 24th day of the month	240245A

Calling

Before transmitting, every operator shall listen for a period long enough to satisfy himself that he will not cause harmful interference to transmissions already in progress. If such interference seems likely, he shall wait for the first break in the transmission.

A station having a distress, urgency or safety message to transmit is entitled to interrupt a transmission of lower priority.

Single station call

When an operator wishes to establish communication with a specific station, the following items shall be transmitted in the order indicated.

1. Call sign of the station called (not more than three times; once is sufficient if radio conditions are good).
2. The words "This is."
3. The call sign of the station calling (not more than three times and once is sufficient, if radio conditions are good).
4. The frequency on which the station is transmitting.
5. Invitation to reply "Over."

Example —

Vancouver Coast Guard Radio (repeated up to 3 times).
This is
Sea Fox VC-1234
On Channel 26.
Over.

Avoid "reverse" calling. Transmitting your own station identifier followed by "to" or "calling" and then the identifier of the station you wish to call, is not proper radio procedure. Remember that the identifier of the station being called is always spoken first, followed by "This is" and your own station's identifier.

General call

When an operator wishes to establish communication with any station within range or in a certain area, the call should be made to "All Stations," using the same procedure as a single station call.

Example —

All Stations, All Stations, All Stations.
This is
Halifax Coast Guard Radio (repeated up to 3 times).

Multiple station call

If more than one station is to be called simultaneously, the identifiers may be transmitted in any convenient sequence followed by the words "This is" and your call sign. As a general rule, operators replying to a multiple station call should answer in the order in which they have been called.

Example —

Sea Fox VC-1234, Black Prince VY-4321, Tag-A-Long VY-4412.
This is
Sydney Coast Guard Radio.
Over.

Coast station traffic lists

If a vessel is expecting radio messages or radiotelephone calls which will be handled through a coast station, the operator must find the advertised times at which the traffic list will be broadcast. Each coast station has advertised the frequency and time it will broadcast its traffic list in the Radio Aids to Marine Navigation (RAMN).

Example on Channel 16 —

All Stations, All Stations, All Stations.
This is
Halifax Coast Guard Radio (repeated up to 3 times).
Traffic list, listen Channel 26.
Halifax Coast Guard Radio.
Out.

Example on Channel 26 —

All Stations, All Stations, All Stations.
This is
Vancouver Coast Guard Radio (repeated up to 3 times).
Traffic list as follows:
M/V Seadog VZ-1234—Telephone call; S/V Bounty
VC-3312—Radio message.
Vancouver Coast Guard Radio.
Over.

Radiotelephone calling procedure in the Maritime Mobile Service

As a general rule, the ship station establishes communication with the coast station. For this purpose, the ship station may call the coast station only when it comes within the service area of the latter. That is the area within which, by using an appropriate frequency, the ship station can be heard by the coast station. However, a coast station having traffic for a ship station may call this station if it has reason to believe that the ship station is keeping watch and is within the service area of the coast station.

When a coast station receives calls from several ship stations at practically the same time, it decides the order in which these stations may transmit their traffic. Its decision is based on the priority of the radiotelegrams or radiotelephone calls that the ship stations have on hand and on the need for allowing each calling station to clear the greatest possible number of communications.

When a station called does not reply to a call sent three times at intervals of two minutes, the calling shall cease and shall not be renewed until after an interval of three minutes. Before renewing the call, the calling station shall ascertain that the station called is not in communication with another station.

Replying

An operator hearing a call directed to his station shall reply as soon as possible and advise the calling station to proceed with his message with the words "Go ahead" or "Stand by" followed by the anticipated number of minutes of delay.

Example —

Sea Fire CZ-1234.
This is
Vancouver Coast Guard Radio.
Go ahead.
Over.

Do not simply ignore the call. This results in unnecessary calling; thus using up air time that is needed by other stations.

When an operator hears a call but is uncertain that the call is intended for his station, he should not reply until the call has been repeated and understood.

When a station is called and the identity of the calling station is uncertain, the operator should reply immediately using the words "Station calling," his station's identification, and the words "Say again" and "Over."

Example —

Station Calling Sea Fire CZ-1234.
Say Again.
Over.

To terminate communications, simply conclude your transmission with the command "Out" (which means "conversation is ended and no response is expected").

Example —

Canso Lock.
This is
Tag-A-Long VY-4412.
Received Canso Lock clearance.
Tag-A-Long VY-4412.
Out.

Radiotelephony contact generally consists of four parts: (1) call, (2) reply, (3) the message, and (4) the acknowledgement or ending.

Example contact —

Call by vessel	Halifax Coast Guard Radio. This is Black Prince VY-4321. On Channel 06. Over.
Reply by coast station	Black Prince VY-4321. This is Halifax Coast Guard Radio. Go Ahead. Over.
The message - vessel	Halifax Coast Guard Radio. This is Black Prince VY-4321 Request telephone call connection. Over.

The message - coast	Black Prince VY-4321. This is Halifax Coast Guard Radio. Stand by - 5 minutes. Over.
Acknowledgement - vessel	Halifax Coast Guard Radio. This is Black Prince VY-4321. Roger, Standing by.

Corrections

Corrections and repetitions during transmission

When an error has been made in transmission, the word "Correction" should be spoken, the last correct word or phrase repeated and the correct version transmitted.

Examples —

At position six, one — Correction six, two degrees ...

Proceed to dock four — Correction dock five, advise ETA.

Transmissions or items of transmissions should not be repeated unless requested by the receiving operator.

Repetitions should be requested if reception is doubtful.

If the receiving operator desires a repetition of a message, he/she should speak the words "Say again." If repetition of only a portion of a message is required, the receiving operator should use the following appropriate phraseology:

Say again all before ... (first word satisfactorily received).

Say again ... (word before missing portion) to ... (word after missing portion).

Say again all after ... (last word satisfactorily received).

Examples —

Vancouver Coast Guard Radio.
This is
North Wind VY-3344.
Say again all before "Dock."
Over.

Halifax Coast Guard Radio.
This is
Seadog VZ-1234.
Say again, 'Proceed" to "Time."
Over.

St. John's Coast Guard Radio.
This is
M/V Bounty VC-3312.
Say again all after "Latitude."
Over.

Request for repetition of specific items of a message should be made by speaking the words "Say again" followed by the identification of the message desired.

Examples —

Say again office or origin.

Say again position.

Say again time.

Phonetic alphabet

Word spelling

The words of the International Telecommunication Union (ITU) phonetic alphabet should be learned thoroughly. Whenever isolated letters or groups of letters are pronounced separately, or when communication is difficult, the alphabet can be easily used. The phonetic alphabet should always be used when transmitting call signs.

When it is necessary to spell out call signs or words the following table should be used.

Phonetic alphabet

Letter	Word	Pronounced as
A	Alfa	AL FAH
B	Bravo	BRAH VOH
C	Charlie	CHAR LEE or SHAR LEE
D	Delta	DELL TAH
E	Echo	ECK OH
F	Foxtrot	FOKS TROT
G	Golf	GOLF
H	Hotel	HOH TELL
I	India	IN DEE AH
J	Juliett	JEW LEE ETT
K	Kilo	KEY LOH
L	Lima	LEE MAH
M	Mike	MIKE
N	November	NO VEM BER
O	Oscar	OSS CAH
P	Papa	PAH PAH
Q	Quebec	KEH BECK
R	Romeo	ROW ME OH
S	Sierra	SEE AIR RAH
T	Tango	TANG GO
U	Uniform	YOU NEE FORM or OO NEE FORM
V	Victor	VIK TAH
W	Whiskey	WISS KEY
X	X-ray	ECKS RAY
Y	Yankee	YANG KEY
Z	Zulu	ZOO LOO

Note: The syllables to be emphasized are underlined.

Example —

Using the phonetic alphabet (if asked to spell its vessel name and call sign where communication is difficult), the vessel Seawolf VY-1234 would express its identification as: Sierra, Echo, Alpha, Whiskey, Oscar, Lima, Foxtrot; Victor, Yankee, one, two, three, four.

Procedural words and phrases

While it is not practical to set down precise phraseology for all radiotelephone procedures, the following words and phrases should be used where applicable. Words and phrases such as "OK," "Repeat," "Ten-four," "Over and Out," "Breaker Breaker," "Come in please," or slang expressions should not be used.

Word or phrase	Meaning
Acknowledge	Let me know that you have received and understood this message.
Affirmative	Yes, or permission granted.
Break	To indicate the separation between portions of the message. (To be used where there is no clear distinction between the text and other portions of the message.)
Channel	Change to channel ... before proceeding.
Confirm	My version is ____. Is that correct?
Correction	An error has been made in this transmission (message indicated). The correct version is ____.
Go ahead	Proceed with your message.
How do you read?	How well do you receive me?
I say again	Self-explanatory (use instead of "I repeat").
Mayday	The spoken word for distress communications.
Mayday relay	Is the spoken word for the distress relay signal.
Negative	No, or that is not correct, or I do not agree.
Over	My transmission is ended and I expect a response from you.
Out	Conversation is ended and no response is expected.
Pan Pan	The spoken word for urgency communications.

Prudonce	During long distress situations, communications can resume on a restricted basis. Communication is to be restricted to ships' business or messages of a higher priority.
Read back	Repeat all of this message back to me exactly as received after I have given OVER (do not use the word "repeat").
Roger	I have received all of your last transmission.
Roger number	I have received your message Number ——.
Romeo, romeo, romeo	The phonetic pronunciation of the words "Received Mayday."
Stand by	I must pause for a few seconds or minutes please wait.
Say again	Self-explanatory. (Do not use the word "repeat".)
Security	Is the spoken word for the safety signal.
Seelonce	Indicates that silence has been imposed on the frequency due to a distress situation.
Seelonce feenee	Is the international expression for a distress cancellation.
Seelonce Mayday	Is the international expression to inform an individual(s) that a distress situation is in progress. The command coming from the ship in distress.
That is correct	Self-explanatory.
Verify	Check coding, check text with originator and send correct version.
Wilco	Your instructions received, understood and will be complied with.
Words twice	(a) As a request: Communication is difficult, please send each word twice. (b) As information: Since communication is difficult, I will send each word twice.

Microphone techniques

The efficient use of radiotelephony depends to a large extent on the method of speaking and the articulation of the operator. As the distinctive sounds of consonants are liable to become blurred in the transmission of speech, words of similar length containing the same vowel sounds are apt to sound alike. Special care is necessary in their pronunciation.

Special care is also required when handling the microphone. The microphone should not be held too close to your mouth. This may cause distortion, slurred words and transmissions that may have to be repeated to be understood.

Speak all words plainly and end each word clearly in order to prevent the running together of consecutive words. Avoid any tendency to shout, to accent syllables artificially or to speak too rapidly. The following points should be kept in mind when using a radiotelephone.

Speed Keep the rate of speech constant, neither too fast nor too slow. Remember that the operator receiving your message may have to write it down.

Rhythm Preserve the rhythm of ordinary conversation. Avoid the introduction of unnecessary sounds such as "er" and "um" between words.

If the communication link is unreliable, or the wording of the text complex or confusing, use the command "words twice" or, upon request, repeat the message using the phonetic alphabet. This should ensure that the information within the text of the message is received correctly.

Channel/frequency assignments

The frequencies used in marine radiotelephone communication are established for use by specific services in specific locations. These frequencies should only be used for the type of communication for which they were intended.

Definitions

Some of the established communication services and frequencies are explained in this section.

International distress, calling and answering frequencies

These frequencies are set aside for use primarily for distress, urgency and safety priority communications or they can be used to initiate a call to another station and for a response from that station, at which time a satisfactory mutual working channel or frequency will be settled. Channel 16 (156.800 MHz) on VHF and 2182 kHz on MF have been designated for this purpose.

Note: A working channel is a channel other than a predesignated channel that is used for the passage of information or messages from one station to another. An operator should never send messages or information on the calling channel, this channel is used for contact only. When it is known that a station you want to communicate with is operating on a working frequency, **it is not necessary to employ the calling frequency**. It is permissible to wait until the communication terminates and then call the station with which you wish to communicate on the working frequency, that is, marinas or coast stations.

Intership frequencies

A number of frequencies have been set aside specifically for communication between ships (ship-to-shore communication prohibited). These frequencies include VHF - Channels 07 (156.350 MHz) and 08 (156.400 MHz).

Some intership frequencies have been assigned to specific services. For example —

Fishing	VHF - Channels	67 (156.375 MHz)
		69 (156.475 MHz)
		73 (156.675 MHz)
	MF	2134 kHz
Pleasure boats	VHF - Channels	68 (156.425 MHz)
		70 (156.525 MHz)
		71 (156.575 MHz)
Marinas	VHF - Channels	68 (156.425 MHz)
		71 (156.575 MHz)

Intership safety frequencies

Some intership frequencies have been designated as safety frequencies. These frequencies are used when an important message is to be passed between ships. An example is a safety message. The common intership frequencies are VHF- Channel 06 (156.300 MHz) and 08 (156.400 MHz).

Public correspondence frequencies

Coast Guard Radio Stations are located at various points along the coasts and the Great Lakes. They provide a safety service, including broadcasts of meteorological forecasts and aids to navigation information, as well as facilities for handling messages or telephone conversations between ships and shore. Frequencies have been set aside for communicating with coast stations. These ship-to-shore frequencies are called public correspondence frequencies.

Vessel traffic services frequencies

In order to promote navigational safety, the protection of the environment and the safe movement of marine traffic, vessel traffic services (VTS) zones have been established throughout Canadian waters. Communications within these zones are to be conducted on the following specific frequencies provided for this service:

VHF - Channels	09 (156.450 MHz)
	10 (156.500 MHz)
	11 (156.550 MHz)
	12 (156.600 MHz)
	13 (156.650 MHz)
	14 (156.700 MHz)
	74 (156.725 MHz)

Broadcast frequencies

One of the many tasks of the Canadian Coast Guard is to pass on information to vessels in the form of notices of dangers to navigation or the marine weather forecast. These broadcasts are usually transmitted on Channel 21B (161.650 MHz) or on Channel 83B (161.775 MHz). There are some variations on channel usage in some areas of Canada. The Radio Aids to Marine Navigation (RAMN) publication should be consulted for confirmation of VHF and MF broadcast frequencies.

Generally, the MF broadcast frequency for the east coast of Canada is 2598 kHz and 2054 kHz for the west coast of Canada. The MF broadcast times are listed in RAMN for each coast station.

Emergency frequencies

Distress —	156.800 MHz (Channel 16)
Emergency Position Indicating Radio Beacon (EPIRB) —	156.800 MHz (Channel 16) (for future use)
	156.750 MHz (Channel 15) (for future use)
	121.500 MHz (Aeronautical)
	243.000 MHz (Aeronautical)

Emissions

VHF — In VHF transmissions, the type of emission used is frequency modulation (FM).

MF-HF — In medium frequency (MF) and high frequency (HF) transmissions, the type of emission used is amplitude modulation (AM). Ships communicating on the distress, calling and answering frequency of 2182 kHz will use the full carrier mode (marked AM on the transmitter). Communication on intership and ship-to-shore working frequencies is restricted to single sideband (SSB) transmissions.

VHF channels commonly used

Channel use	Channel
Distress and safety (calling)	16
Ship-to-ship	06 07 08 09 10 18 67 68 69 70 71 72 73 78 79 80
Licensed private shore stations in the fishing industry communicating with fishing vessels on the east coast only.	67 69 73 or 04A 61A 62A
Pilotage operations only	17 77
Communications with Vessel Traffic Movement Service only	09 10 11 12 13 14 74
Recreational craft	68 70 71
Port operations (communications between coast stations and vessels related to operational matters only)	20 65 66
Federal government only	15 19 21 22 81 82 83
Ship/shore coast station public telephone	23 24 25 26 27 28 84 85 86 87 88
Coast stations transmitting weather and navigational warnings	21B 83B

Note: This list is only intended as a reference for the more commonly used frequencies. Users are asked to refer to Telecommunications Regulation Circular 13 (TRC13) for more details on channel allocations. Copies of the circular may be obtained by writing any of the regional or district offices listed in Appendix 1.

Distress, urgency and safety

Distress communications

Distress communications should be conducted in accordance with the procedures outlined below. These procedures shall not, however, prevent a station in distress from making use of any means at its disposal to attract attention to make known its position, and obtain help.

Frequencies to be used

The first transmission of the distress call and message by a vessel should be on the distress, calling and answering frequency of 2182 kHz (MF) or Channel 16, 156.800 MHz (VHF). If no response is heard on these frequencies, the use of any other available frequency in an effort to obtain assistance is permitted.

Control of distress traffic

The control of distress traffic is the responsibility of the vessel in distress or of the station which relays the distress message. These stations may, however, delegate the control of distress traffic to another station such as a Coast Guard Radio Station. During many distress situations Coast Guard Radio Stations control distress traffic. Their powerful coastal transmitters can be readily heard by other ship and land stations over a wide area.

Distress signal

In radiotelephony, the spoken word for distress is "Mayday."

The distress signal indicates that the station sending the signal is:

1. threatened by grave and imminent danger and requires immediate assistance, or
2. aware that a ship, aircraft or other vehicle is threatened by grave and imminent danger and requires immediate assistance.

Distress call

The distress call shall only be sent on the authority of the person in command of the station. The distress call should comprise:

1. The distress signal "Mayday" spoken three times.
2. The words "This is."
3. The name and call sign of the vessel in distress spoken three times.

Example —

Mayday, Mayday, Mayday.
This is
Seafox VC-1234, Seafox VC-1234, Seafox VC-1234.

The distress call shall not be addressed to a particular station and acknowledgement of receipt shall not be given before the distress message is sent.

Distress priority

The distress call has absolute priority over all other transmissions. All stations which hear it shall immediately cease any transmission capable of interfering with distress traffic and shall continue to listen on the frequency used for the distress call.

Distress message

The distress call shall be followed as soon as possible by the distress message.

The distress message shall be comprised of:

1. The distress signal "Mayday."
2. The call sign of station in distress (once).
3. Particulars of its position.
4. Nature of distress and kind of assistance required (that is, what has happened).
5. The number of persons on board and injuries (if applicable).
6. Any other information that might facilitate rescue.
7. The call sign of the vessel.

Note: As a general rule, a ship shall signal its position in latitude and longitude. When practicable, the true bearing distance in nautical miles from a known geographical position may be given.

Example —

Mayday.
M/V Seadog VZ-1234.
Position: Latitude 43° 30′ 56″N.
Longitude 61° 30′ 21″W.
Ship on fire.
15 metre Cape Island, yellow and blue in colour.
4 persons on board.
Abandoning ship to life rafts.
Seadog VZ-1234.

Repetition of a distress message

The distress message shall be repeated at intervals by the vessel in distress until an answer is received or until it is no longer feasible to continue. The intervals between repetitions of the distress message shall be sufficiently long to allow time for stations, which have received the message, to reply.

When a vessel in distress receives no answer to its distress call sent on the distress frequencies 2182 kHz or 156.800 MHz (Channel 16 VHF), the distress call and message should be repeated on any other available frequency on which attention might be attracted (that is, ship-to-ship or ship-to-shore).

Any station which is not in a position to render assistance and which has heard a distress message that has not been immediately acknowledged, shall take all possible steps to attract the attention of other stations that are in a position to render assistance.

In addition, all necessary steps shall be taken to notify the Coast Guard or appropriate search and rescue authorities of the situation.

Action by station in distress

When a vessel is threatened by grave and imminent danger, and requires immediate assistance, the person in command should direct appropriate action as follows:

1. Transmit the distress call.
2. Transmit the distress message.
3. Listen for acknowledgement of receipt.
4. Exchange further distress traffic as applicable.
5. Turn on automatic emergency equipment (Emergency Position Indicating Radio Beacon — EPIRB) if provided and when appropriate.

Action by stations other than the station in distress

A station becoming aware that a ship station is in distress should transmit the distress message when:

1. the station in distress is not in a position to transmit the message, or
2. the person in command of the station which intervenes believes that further help is necessary.

When a distress message is received and it is known that the vessel in distress is not in the immediate vicinity, sufficient time should be allowed before the distress message is acknowledged. This will permit stations nearer to the station in distress to reply.

Acknowledgement of receipt of a distress message

The acknowledgement of receipt of a distress message shall be given in the following form:

1. The distress signal "Mayday."
2. The call sign of the station in distress (three times).
3. The words "This is."
4. The call sign of the station acknowledging receipt (three times).

5. Roger Mayday.
6. My position is ...
7. Proceeding to render assistance.
8. Estimated time of arrival.
9. Over.

Example —

Mayday.
Seadog VZ-1234, Seadog VZ-1234, Seadog VZ-1234.
This is
Black Prince VY-4321, Black Prince VY-4321, Black Prince VY-4321.
Roger Mayday.
We are 2 to 3 miles away from you.
We are proceeding to your co-ordinates.
We should arrive within a half hour, over.

Action by station acknowledging receipt of a distress message

1. Forward information immediately to the appropriate Coast Guard or search and rescue agencies or organizations.
2. Continue to guard the frequency on which the distress message was received and, if possible, any other frequency that may be used by the station in distress.
3. Notify any station with direction-finding or radar facilities which may be of assistance.
4. Cease all transmissions which may interfere with the distress traffic.

Action by other stations hearing a distress message

1. Continue to guard the frequency on which the distress message was received and, if possible, establish a continuous watch on appropriate distress and emergency frequencies.
2. Notify any station with direction-finding or radar facilities requesting assistance unless it is known that this action has been or will be taken by the station acknowledging receipt of the distress message.
3. Cease all transmissions that may interfere with the distress traffic.

Distress traffic

Distress traffic consists of all transmissions relative to the immediate assistance required by the station in distress. Essentially, all transmissions made after the initial distress call are considered as distress traffic. In distress traffic, the distress signal "Mayday," spoken once, shall precede all transmissions. This procedure is intended to alert stations not aware of the initial distress call and now monitoring the distress channel that traffic heard relates to a distress situation.

Any station in the Maritime Mobile Service that has knowledge of distress traffic and cannot itself assist the station in distress shall nevertheless follow such traffic until it is evident that assistance is being provided. Until a message is received indicating that normal working may be resumed (cancellation of distress), all stations which are aware of distress traffic and which are not taking part in it are forbidden to transmit on the frequencies being used for distress traffic.

Relay of a distress message

A distress message repeated by a station other than the station in distress shall transmit a signal comprised of:

1. The signal "Mayday Relay" spoken three times.
2. The words "This is."
3. The name and call sign of the station relaying the message (three times).
4. The distress signal "Mayday" (once).
5. The particulars of the station in distress such as the distress station's location, nature of distress, number of persons on board (repetition of the distress message as received).
6. Vessel name and call sign.
7. Over.

Example —

Mayday Relay, Mayday Relay, Mayday Relay.
This is
Black Prince VY-4321, Black Prince VY-4321, Black Prince VY-4321.
Mayday.
Seadog VZ-1234.
Position: Latitude 43° 30′ 56″N.
Longitude 61° 30′ 21″W.
15 metre Cape Island, yellow and blue in colour.
4 persons on board.
Abandoning ship for life rafts.
Black Prince VY-4321.
Over.

Imposition of silence

The station in distress, or any station in the immediate vicinity, may impose silence on a particular station or stations in the area if interference is being caused to distress traffic.

The station in distress shall use the expression "Silence Mayday" or "Seelonce Mayday" (the international expression).

Other stations imposing silence during a distress situation shall use the expression "Silence distress" or "Seelonce distress" (the international expression).

Should radio silence be imposed during a distress situation, all transmissions shall cease immediately except from those stations involved in distress traffic.

Examples —

- Imposition of silence on a specific station by the station in distress. (M/V Bounty VC-3312 is causing interference to distress traffic.)

  Mayday.
  M/V Bounty VC-3312, M/V Bounty VC-3312, M/V Bounty VC-3312.
  This is
  Seafox VC-1234, Seafox VC-1234, Seafox VC-1234.
  Silence Mayday.
  Out.

- Imposition of silence on all stations by a station other than the station in distress.

  Mayday.
  This is
  Black Prince VY-4321, Black Prince VY-4321, Black Prince VY-4321.
  Silence distress.
  Out.

Cancellation of distress

When a station is no longer in distress, or when it is no longer necessary to observe radio silence (that is, rescue operation has concluded), the station that was in distress, the rescue vessel or the station that controlled distress traffic shall transmit a message addressed to All Stations on the distress frequency(ies) advising that the distress traffic has ended. The proper procedure for cancelling a distress message is:

1. The distress signal "Mayday" (once).
2. The words "All Stations" (three times).
3. The words "This is."
4. The name and/or call sign of the station transmitting the message (three times).
5. The filing time of the message.
6. The call sign of the station in distress (once).
7. The words "Silence Finished" or "Seelonce Feenee" (the international expression).
8. A short plain-language description of why the distress situation is being cancelled (that is, vessel clear and under tow).
9. The name or call sign of the station transmitting the message.
10. The word "Out."

Example —

Mayday.
All Stations, All Stations, All Stations.
This is
North Wind VY-3344, North Wind VY-3344, North Wind VY-3344.
One six one five, Eastern Standard Time.
Seadog VZ-1234.
Silence Finished (Seelonce Feenee).
All persons are safe on board this vessel — the vessel Seadog — sunk — port of destination Halifax, Nova Scotia.
North Wind VY-3344.
Out.

Note: The procedure outlined here is mainly for the benefit of other stations for the resumption of regular service on the distress frequencies. To ensure that Coast Guard and Search and Rescue Stations are advised that a station is no longer in distress, a normal call to the nearest Coast Guard Radio Station detailing the reasons for cancelling the distress call must be made.

Urgency communications

Signal

The urgency signal is "Pan Pan" spoken three times. It is sent before the call.

The urgency signal indicates that the station calling has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle; or the safety of a person.

When used by a Maritime Mobile Station, the message, preceded by the urgency signal, may be addressed to all stations or to a specific station.

The urgency signal and message following it shall be sent on the distress, calling and answering Channel 16 (VHF — 156.800 MHz) or 2182 kHz (MF).

Priority

The urgency signal has priority over all other communications — except distress.

Stations that hear only the urgency signal shall continue to listen for at least three minutes on the frequency on which the signal is heard. After that, if no urgency message has been heard, stations may resume normal service. All stations that hear the urgency signal must take care not to interfere with the urgency message which follows it. Stations that are in communication on frequencies other than those used for the transmission of the urgency message, may continue normal work without interruption, provided that the urgency message is not addressed to All Stations.

Urgency call

The urgency call shall only be sent on the authority of the person in command of the station. The urgency call shall comprise:

1. The urgency signal "Pan Pan, Pan Pan, Pan Pan."
2. The words "This is."
3. The name and call sign of the vessel sending the urgency call spoken three times.

Examples —

Pan Pan, Pan Pan, Pan Pan.
All Stations, All Stations, All Stations.
This is
Seafox VC-1234, Seafox VC-1234, Seafox VC-1234.

Pan Pan, Pan Pan, Pan Pan.
Halifax Coast Guard Radio (repeated three times).
This is
Seafox VC-1234, Seafox VC-1234, Seafox VC-1234.

Urgency message

The urgency signal and call shall be followed by a message giving further information of the incident that necessitated the use of the urgency signal. The message shall be in plain language.

An urgency call can be directed to a specific station or to "All Stations." This would be included after the priority call of "Pan Pan, Pan Pan, Pan Pan" and preceding the identification of the calling station.

When the urgency message does not contain a specific address and is acknowledged by a ship station, that station shall forward the information to the appropriate authorities (Coast Guard Radio Station and/or search and rescue organizations).

Example call and message —

Pan Pan, Pan Pan, Pan Pan.
All Stations, All Stations, All Stations.
This is
North Wind VY-3344, North Wind VY-3344, North Wind VY-3344.
Have run out of fuel and adrift in heavy seas.
Require a tow.
My position is 20 miles due east of Halifax.
North Wind VY-3344.
Over.

Pan Pan, Pan Pan, Pan Pan.
Halifax Coast Guard Radio (repeated three times).
This is
North Wind VY-3344, North Wind VY-3344, North Wind VY-3344.
One of the rescued persons has gone into deep shock.
Request helicopter air lift.
My position is 20 miles south of Halifax.
North Wind VY-3344.
Over.

Example of reply —

Pan Pan.
North Wind VY-3344, North Wind VY-3344, North Wind VY-3344.
This is
Halifax Coast Guard Radio (repeated three times).
Helicopter has been dispatched, estimated time of arrival is 1215Z.
Halifax Coast Guard Radio.
Over.

Cancellation of urgency message

When the urgency signal has been used before a message addressed to All Stations, which calls for action by stations receiving the message, the station responsible for its transmission shall cancel it as soon as it knows that action is no longer necessary. The cancellation message shall be addressed to All Stations.

Example —

Pan Pan.
All Stations, All Stations, All Stations.
This is
North Wind VY-3344, North Wind VY-3344, North Wind VY-3344.
Time: 1340Z.
Urgency ended — Helicopter has evacuated injured person — Enroute to Halifax, N.S. — This vessel now proceeding normally to Halifax, Nova Scotia.
North Wind VY-3344.
Out.

Safety communications

Safety signal

In radiotelephony, the safety signal is the word "Security" spoken three times. It is sent before the call.

The safety signal indicates that the station calling is about to transmit a message concerning the safety of navigation or giving an important meteorological warning.

Priority

The safety signal has priority over all other communications except distress and urgency.

All stations hearing the safety signal shall continue to listen on the frequency on which the signal has been transmitted. They may stop listening when they are satisfied that the message is of no interest to them.

All stations that hear the safety signal must take care not to interfere with the message which follows it. No transmission shall be made that may interfere with these stations.

Safety call

The safety call shall be sent only on the authority of the person in command of the station. The safety call shall comprise:

1. The safety signal "Security, Security, Security."
2. Address — "All Stations, All Stations, All Stations."
3. The words "This is."
4. The name and call sign of the vessel sending the safety call spoken three times.

Example —

Security, Security, Security.
All Stations, All Stations, All Stations.
This is
Seafox VC-1234, Seafox VC-1234, Seafox VC-1234.

Vessel procedures

The safety signal and call shall be sent on the international distress frequencies of 2182 kHz and/or 156.800 MHz (Channel 16 VHF). The safety message that follows the call should be sent on a suitable working frequency (see note below). An announcement to this effect shall be made at the end of the call.

Note: a) On VHF, a suitable working frequency is Channel 06 (156.300 MHz). It is designated intership. Most vessels equipped with VHF radiotelephone are fitted with Channel 06.

b) On MF, a suitable working frequency can be either 2638 kHz, 2237 kHz or 2738 kHz. These frequencies are designated intership for most types of vessels.

In the Maritime Mobile Service, safety calls and messages shall generally be addressed to "All Stations." In some cases, however, they may be addressed to a particular station (that is, a Coast Guard Radio Station). When a safety call is addressed to a Coast Guard Radio Station, the message should follow on a Coast Guard working frequency.

Safety signals and calls may be transmitted at any time on 156.800 MHz (Channel 16 VHF). However, for vessels fitted with 2182 kHz, the safety signal and call should be transmitted towards the end of the first available silence period and the message transmitted immediately after the silence period (on a suitable working frequency).

Safety message

The safety signal and call shall be followed by a message giving further information of the incident that necessitated the use of the safety signal. The message shall be in plain language.

Meteorological and navigational warning messages that contain information on imminent danger to marine navigation must be transmitted without delay and repeated as indicated previously at the end of the first silence period that follows.

Example of a safety call —

Security, Security, Security.
All Stations, All Stations, All Stations.
This is
Tug Crusader VG-2010, Tug Crusader VG-2010, Tug Crusader VG-2010.
Safety message concerning the Merry Island area to follow Channel 06.
Tug Crusader VG-2010.
Out.

The above call would be made on Channel 16. Tug Crusader and All Stations hearing the above safety call would then shift to Channel 06.

Example of a safety message —

The following message would be made on the working channel:

Security.
All Stations, All Stations, All Stations.
This is
Tug Crusader VG-2010, Tug Crusader VG-2010, Tug Crusader VG-2010.
Log boom adrift and breaking up six miles south of Merry Island.
Hazard to navigation.
Tug Crusader VG-2010.
Out.

The above example is applicable for vessels fitted with VHF radiotelephone equipment.

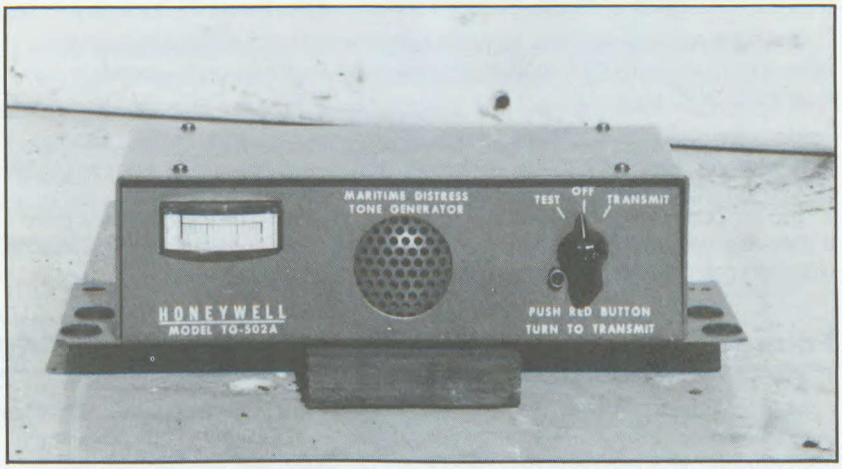
Note: For vessels fitted with 2182 kHz, the safety message would follow on a designated intership channel such as 2638 kHz or 2738 kHz.

Alarm signals

Radiotelephone operators in the safety services should familiarize themselves with the operation and maintenance of the specialized equipment that may be used in distress situations to help facilitate rescue. Some of the more common emergency equipment is listed below.

Radiotelephone alarm

A radiotelephone alarm is usually hardwired to the transceiver. The controls on this piece of equipment are a three-position switch — Test — Off — Transmit. A DC voltmeter for checking the internal battery voltage and a speaker to hear the alarm signal are usually incorporated into these units.



The international radiotelephone alarm signal consists of a repetitive transmission of two audio tones (1.300 and 2.200 kHz, the duration of each tone is 250 milliseconds) producing a warbling sound. This lasts for a period of at least thirty seconds, but does not exceed one minute. The purpose of this signal is to alert stations guarding 2182 kHz that a distress call is to follow and to activate distress frequency watch receivers. This alarm signal is to precede a distress signal, call and message.

VHF radiotelephone equipment is generally not fitted with a radiotelephone alarm signal-generating device.

Navigational warning signal

The navigational warning signal is transmitted from a coast station for a period of 15 seconds before vital navigational warnings on the medium frequency of 2182 kHz.

The navigational warning signal consists of an interrupted tone frequency of 2.200 kHz. The duration of each tone and interruption is 250 milliseconds.

The purpose of this signal is to attract the attention of the operator that a message concerning a navigational warning is to follow (a navigational warning can be weather, storm, hurricane, safety notices, etc.).

Emergency Position Indicating Radio Beacons (EPIRBs)

Marine EPIRBs are designed to be carried aboard ships and survival craft and intended to be used in emergency situations. Specifically, EPIRBs are to facilitate determining the position of survivors in search and rescue operations. When an EPIRB is activated, either automatically or manually, it transmits a distinct distress signal in the very high frequency band (VHF) for alerting Coast Guard and Search and Rescue (SAR) authorities that a marine distress incident has occurred. It also enables SAR authorities, ships and aircraft to locate the position of the unit emitting the distress signal.

There are three classes of EPIRBs. Performance standards for EPIRBs are contained in Transport Canada publication TP 4522. Some EPIRBs are capable of floating free of a sinking ship and are activated automatically. Others are manually activated and deployed or attached to personnel or survival craft. The distress signal is transmitted simultaneously on 121.500 and 243.000 MHz for Class I and II EPIRBs, as well as 156.800 MHz (Channel 16), 156.750 MHz (Channel 15) for Class III EPIRBs.

Signal

The EPIRBs signal consists of two audio tones alternating to give a warbling effect.

Construction

The EPIRBs are packaged in a waterproof single unit container resistant to corrosion and other environmental effects that may occur in connection with use and long-period storage on ships at sea. After deployment, the EPIRB is buoyant in both fresh and salt water and will float upright in calm water.

Class I and II EPIRBs have an operating endurance of at least 48 hours. The Class III EPIRB is capable of operation when handheld or when floating in water for at least 24 hours under marine environmental conditions.

EPIRBs are coloured fluorescent red or international orange and are clearly labelled with information regarding the EPIRBs manufacturer, class designation, operating frequencies, model/serial number and type approval number. Concise operational and testing instructions, as well as information regarding the shelf life of the battery and its replacement date, are permanently and conspicuously displayed on the exterior of the EPIRB in both official languages.

Operational controls

Manual controls are provided to activate and de-activate the transmitter. A test function may be provided as an option.

Off In the "off" mode, the transmitter is de-activated.
On In the "on" mode, the transmitter is activated.
Test In the "test" mode, the integrity of the transmitter is tested, using a dummy antenna.

The controls provided are clearly and durably marked and protected by guards or other means to prevent accidental activation, as well as having a visual and/or audible indication that the EPIRB is transmitting.

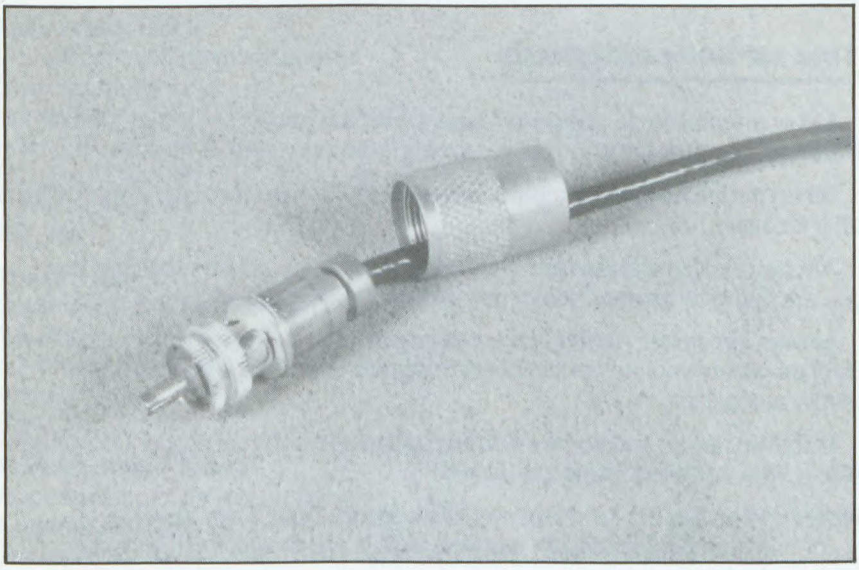
Visual inspections

Upon completion of all tests, the EPIRB should be inspected visually. The EPIRB should not show any sign of corrosion due to intrusion of water, or any sign of physical damage (to the transmitter module, antenna system or connectors) that could prevent the EPIRB from functioning satisfactorily.

Microphone and antenna connections

Cables have various connectors which are attached to the electronic equipment. Each connector requires its own assembly technique. Care should be exercised when repairing or replacing connectors. The main problems with connectors are shorts (when two bare wires are touching either each other or the case) or open wires (when the wire is broken inside the plastic shield or outer covering).

All connections should be tight and clean. Where connectors are exposed to the weather, they should be protected with a coating of silicone to prevent corrosion build-up and to keep water from within the outer casing.



Fuses

Electric circuits are protected against overload and short circuits by fuses, each rated for a given amperage. Never replace a fuse with one of a higher rating. That will simply compromise or negate its protective function, and create a definite fire hazard.

Most fuses used in electronic radio equipment are of the cylinder type. This fuse has a thin strip of metal between the two metal end caps. This thin strip of metal will melt and pull apart when overloaded, shutting down the circuit. If there is a short circuit (two wires touching), it will "blow" again, shutting down the circuit. Replacement is necessary. Spare fuses should be kept near the radio equipment for emergency.

Fuses (or circuit breakers, if your electrical system is so equipped) act as safety valves. When something goes wrong with a circuit, the fuse for that circuit blows (or the breaker trips off), shutting down power to the circuit. In addition to preventing overheating and possible fire, this action also warns you that there is a problem on the circuit. The fault should be corrected before the fuse is replaced.

Note: Always exercise caution when changing a fuse. Make sure that your hands are dry. Do not stand in a wet or damp area. If necessary, lay down dry boards and wear rubber-soled shoes. Never replace a fuse with one of a larger amperage rating. This could cause serious overloading of the circuit by reducing the effectiveness of the "safety valve."

Tips on basic electricity

Never attempt to do any minor repairs with the power on. Make sure the equipment and/or the main power supply is disconnected.

When performing minor repairs, always know where the main electrical shut off is located.

Always analyze and familiarize yourself with the particular repair job that you are going to attempt before you proceed with your task.

Always remember: water and electricity do not mix. Never put yourself in a position where you are handling electricity with wet hands or standing in a damp/wet place.

Extreme caution should be exercised with respect to tool usage. Do not poke screwdrivers or pliers inside equipment.

Note: Have respect for the power of electricity. That is the best way to insure your success in working with it and in keeping it working for you.

Appendix 1

Regional and district offices of the Department of Communications

Atlantic Region

Regional Office
Department of Communications
Terminal Plaza Building
7th Floor
1222 Main Street
P.O. Box 5090
MONCTON, N.B.
E1C 8R2

District Offices

New Brunswick
Department of Communications
Customs Building
Room 337
189 Prince William Street
P.O. Box 7285, Stn. A
SAINT JOHN, N.B.
E2L 4S6

Nova Scotia
Department of Communications
9th Floor
6009 Quinpool Road
HALIFAX, N.S.
B3K 5J7

Prince Edward Island
Department of Communications
Dominion Building
3rd Floor
97 Queen Street
CHARLOTTETOWN, P.E.I.
C1A 4A9

Newfoundland
Department of Communications
Sir Humphrey Gilbert Building
Room 612
165 Duckworth Street
P.O. Box 5277
ST. JOHN'S, Nfld.
A1C 5W1

Quebec Region

Regional Office
Department of Communications
295 St. Paul Street East
MONTREAL, Que.
H2Y 1H1

District Offices

Department of Communications
Room 436
2 Place Québec
QUEBEC, Que.
G1R 2B5

Department of Communications
Room 401
1650 King Street West
SHERBROOKE, Que.
J1J 2C3

Department of Communications
Guy Favreau Complex
Room 1214
200 Dorchester Blvd. West
East Tower
MONTREAL, Que.
H2Z 1X4

Department of Communications
2nd Floor
942 Chabanel Street
CHICOUTIMI, Que.
G7H 5W2

Department of Communications
Room 206
140 St. Germain Street West
RIMOUSKI, Que.
G5L 4B5

Ontario Region

Regional Office
Department of Communications
9th Floor
55 St. Clair Avenue East
TORONTO, Ont.
M4T 1M2

District Offices

Department of Communications
5th Floor
30 Duke Street West
KITCHENER, Ont.
N2H 3W5

Department of Communications
9th Floor
55 St. Clair Avenue East
TORONTO, Ont.
M4T 1M2

Department of Communications
Trebla Building
Room 100B
473 Albert Street
OTTAWA, Ont.
K1R 5B4

Department of Communications
Room 210
135 James Street South
HAMILTON, Ont.
L8P 2Z6

Department of Communications
Room 1112
451 Talbot Street
LONDON, Ont.
N6A 5C9

Department of Communications
3rd Floor, Suite 2
280 Pinnacle Street
P.O. Box 380
BELLEVILLE, Ont.
K8N 5A5

Department of Communications
Station Tower
2nd Floor
421 Bay Street
P.O. Box 727
SAULT STE. MARIE, Ont.
P6A 5N3

Central Region

Regional Office
Department of Communications
Room 200
386 Broadway Avenue
WINNIPEG, Man.
R3C 3Y9

District Offices

Manitoba
Department of Communications
Room 200
386 Broadway Avenue
WINNIPEG, Man.
R3C 3Y9

Saskatchewan
Department of Communications
206 Circle Drive East
SASKATOON, Sask.
S7K 0T5

Department of Communications
Room 101
2101 Scarth Street
REGINA, Sask.
S4P 2H9

Alberta
Department of Communications
Liberty Building
10th Floor
10506 Jasper Avenue
EDMONTON, Alta.
T5J 2W9

Department of Communications
Room 820
220 - 4th Avenue South East
P.O. Box 2905, Station M
CALGARY, Alta.
T2P 2M7

Department of Communications
8th Floor
9909 - 102nd Street
GRANDE PRAIRIE, Alta.
T8V 2V4

Northwest Territories
Department of Communications
Precambrian Building
10th Floor
P.O. Box 2700
YELLOWKNIFE, N.W.T.
X1A 2R1

Pacific Region

Regional Office
Department of Communications
Suite 1700
800 Burrard Street
VANCOUVER, B.C.
V6Z 2J7

District Offices

British Columbia
Department of Communications
Room 224
816 Government Street
VICTORIA, B.C.
V8W 1W9

Department of Communications
Federal Building
Room 304
471 Queensway Avenue
KELOWNA, B.C.
V1Y 6S5

Department of Communications
Room 583
309 - 2nd Avenue West
PRINCE RUPERT, B.C.
V8J 3T1

Department of Communications
Suite 1700
800 Burrard Street
P.O. Box 1700
VANCOUVER, B.C.
V6J 2J7

Department of Communications
Vancouver District Office
Surrey Site
P.O. Box 3396
LANGLEY, B.C.
V3A 4R7

Department of Communications
707 - 299 Victoria Street
PRINCE GEORGE, B.C.
V2L 5B8

Department of Communications
Room 101
125 - 10th Avenue South
CRANBROOK, B.C.
V1C 2N1

Yukon
Department of Communications
Polaris Building
Room 201
4133 - 4th Avenue
WHITEHORSE, Y.T.
Y1A 1H8

Government of Canada
Department of Communications

Gouvernement du Canada
Ministère des Communications

RADIO STATION LICENCE

LICENCE DE STATION RADIO

Issued in accordance with the Radio Act and Regulations made thereunder

Délivrée en conformité de la Loi sur la Radio et de ses règlements d'exécution

THIS LICENCE SHALL BE RETAINED AT THE STATION

LA PRÉSENTE LICENCE DOIT ÊTRE CONSERVÉE À LA STATION

CLASS OF LICENCE/CLASSE DE LICENCE	THIS LICENCE SHALL CONTINUE IN FORCE UNTIL / CETTE LICENCE RESTERA EN VIGUEUR JUSQU'AU	COMPANY CODE / CODE DE LA CIE	LICENCE NUMBER / NUMÉRO DE LA LICENCE
SHIP/NAVIRE	MARCH 31 1987 31 MARS 1987	5600-00000	663-0000000

ISSUED TO / DÉLIVRÉE À

HIGH SEAS LTD
C/O WATER SEAFOODS LTD
7 BEDFORD HIGHWAY
HALIFAX, NOVA SCOTIA, B4A 1A1

SERVICE CATEGORY/CATÉGORIE DE SERVICE

MARITIME MOBILE - A
MOBILE MARITIME

TRANSMITTING FREQUENCIES / FRÉQUENCE D'ÉMISSION	NECESSARY BANDWIDTH & CLASS OF EMISSION / LARGEUR DE BANDE NÉCESSAIRE ET CLASSE D'ÉMISSION	POWER / PUISSANCE kW	AUTHORIZED COMMUNICATIONS/CONDITIONS / COMMUNICATIONS AUTORISÉES/CONDITIONS	RECEIVING FREQUENCIES / FRÉQUENCES DE RÉCEPTION	CHANNELS-VOIES TX-EM.	CHANNELS-VOIES RX-REC

***SEE/VOIR PAGE 2.

NAME OF VESSEL JENNI & JOE
NOM DU NAVIRE
POWER IN KW_____PUISSANCE KW
VHF .025 MEDIUM FREQUENCY MAIN STATION .025 STATION PRINCIPALE A FREQUENCE MOYENNE
ADDITIONAL AUTHORIZED EQUIPMENT _____ MATERIEL SUPPLEMENTAIRE AUTORISE
DIR. FINDER RADAR LORAN DECCA LIFEBOAT
GONIOMETRE RADAR LORAN DECCA EMBARCATION DE SAUVETAGE

CALL SIGN / INDICATIF D'APPEL	DATE OF ISSUE/DATE DE DÉLIVRANCE
VY1234	FEB. 15 FEV. 1985

MARCEL MASSE
MINISTER OF COMMUNICATIONS/MINISTRE DES COMMUNICATIONS

SEE REVERSE SIDE-VOIR AU VERSO

Appendix 2
Sample radio station licence

Government of Canada
Department of Communications

Gouvernement du Canada
Ministère des Communications

RADIO STATION LICENCE

LICENCE DE STATION RADIO

Issued in accordance with the Radio Act and Regulations made thereunder

Délivrée en conformité de la Loi sur la Radio et de ses règlements d'exécution

THIS LICENCE SHALL BE RETAINED AT THE STATION

LA PRÉSENTE LICENCE DOIT ÊTRE CONSERVÉE À LA STATION

CLASS OF LICENCE/CLASSE DE LICENCE	THIS LICENCE SHALL CONTINUE IN FORCE UNTIL / CETTE LICENCE RESTERA EN VIGUEUR JUSQU'AU	COMPANY CODE / CODE DE LA CIE	LICENCE NUMBER / NUMÉRO DE LA LICENCE
SHIP/NAVIRE	MARCH 31 1987 31 MARS 1987	5600-00000	663-0000000

ISSUED TO / DÉLIVRÉE À

HIGH SEAS LTD
C/O WATER SEAFOODS LTD
7 BEDFORD HIGHWAY
HALIFAX, NOVA SCOTIA. B4A 1A1

SERVICE CATEGORY/CATÉGORIE DE SERVICE

APPENDIX P

*** PAGE 2

TRANSMITTING FREQUENCIES / FRÉQUENCE D'ÉMISSION	NECESSARY BANDWIDTH & CLASS OF EMISSION / LARGEUR DE BANDE NECESSAIRE ET CLASSE D'EMISSION	POWER / PUISSANCE kW	AUTHORIZED COMMUNICATIONS/CONDITIONS	COMMUNICATIONS AUTORISEES/CONDITIONS	RECEIVING FREQUENCIES / FRÉQUENCES DE RÉCEPTION	CHANNELS - VOIES TX-EM.	CHANNELS - VOIES RX-REC
156.275 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	65A	156.275 MHZ	1)	
156.300 MHZ	16KOF3EJN		INTERSHIP-SAFETY	06	156.300 MHZ	2) 3)	
156.325 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	66A	156.325 MHZ	1)	
156.350 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	07A	156.350 MHZ	2)	
156.375 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	67	156.375 MHZ	2) 3)	
156.400 MHZ	16KOF3EJN		INTERSHIP	08	156.400 MHZ	2)	
156.425 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	68	156.425 MHZ	4)	
156.450 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	09	156.450 MHZ	2) 3) 5)	
156.475 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	69	156.475 MHZ	2) 3)	
156.500 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	10	156.500 MHZ	2) 3) 5)	
156.525 MHZ	16KOF3EJN		INTERSHIP	70	156.525 MHZ	3)	
156.550 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	11	156.550 MHZ	1) 2) 3) 5) 6)	
156.575 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	71	156.575 MHZ	4)	
156.600 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	12	156.600 MHZ	1) 2) 3) 6)	
156.625 MHZ	16KOF3EJN		INTERSHIP	72	156.625 MHZ	2) 3)	
156.650 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	13	156.650 MHZ	2) 3) 6)	
156.675 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	73	156.675 MHZ	2) 3)	
156.700 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	14	156.700 MHZ	1) 2) 3) 6)	
156.725 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	74	156.725 MHZ	2) 3) 6)	
156.800 MHZ	16KOF3EJN		DISTRESS/SAFETY/CALLING	16	156.800 MHZ	2) 3)	
156.850 MHZ	16KOF3EJN		INTERSHIP-SHIP/SHORE	17	156.850 MHZ	1) 2) 3) 7)	

***SEE/VOIR PAGE 3

CALL SIGN / INDICATIF D'APPEL	DATE OF ISSUE/DATE DE DÉLIVRANCE

MARCEL MASSE
MINISTER OF COMMUNICATIONS/MINISTRE DES COMMUNICATIONS

SEE REVERSE SIDE-VOIR AU VERSO

Government of Canada
Department of Communications

Gouvernement du Canada
Ministère des Communications

RADIO STATION LICENCE

LICENCE DE STATION RADIO

Issued in accordance with the Radio Act and Regulations made thereunder

Délivrée en conformité de la Loi sur la Radio et de ses règlements d'exécution

THIS LICENCE SHALL BE RETAINED AT THE STATION

LA PRÉSENTE LICENCE DOIT ÊTRE CONSERVÉE À LA STATION

CLASS OF LICENCE/CLASSE DE LICENCE	THIS LICENCE SHALL CONTINUE IN FORCE UNTIL / CETTE LICENCE RESTERA EN VIGUEUR JUSQU'AU	COMPANY CODE / CODE DE LA CIE	LICENCE NUMBER / NUMÉRO DE LA LICENCE
SHIP/NAVIRE	MARCH 31 1987 31 MARS 1987	5600-00000	663-0000000

ISSUED TO / DÉLIVRÉE À

HIGH SEAS LTD
C/O WATER SEAFOODS LTD
7 BEDFORD HIGHWAY
HALIFAX, NOVA SCOTIA. B4A 1A1

SERVICE CATEGORY/CATÉGORIE DE SERVICE

TRANSMITTING FREQUENCIES / FRÉQUENCE D'ÉMISSION	NECESSARY BANDWIDTH & CLASS OF EMISSION / LARGEUR DE BANDE NÉCESSAIRE ET CLASSE D'ÉMISSION	POWER / PUISSANCE kW	AUTHORIZED COMMUNICATIONS/CONDITIONS	COMMUNICATIONS AUTORISÉES/CONDITIONS	RECEIVING FREQUENCIES / FRÉQUENCES DE RÉCEPTION	CHANNELS-VOIES TX-EM.	CHANNELS-VOIES RX-REC
APPENDIX P							*** PAGE 3
156.875 MHZ	16K0F3EJN		INTERSHIP-SHIP/SHORE	77	156.875 MHZ	1)2)3)7)	
156.900 MHZ	16K0F3EJN		INTERSHIP-SHIP/SHORE	18A	156.900 MHZ	2)	
156.925 MHZ	16K0F3EJN		INTERSHIP-SHIP/SHORE	78A	156.925 MHZ	2)	
156.950 MHZ	16K0F3EJN		INTERSHIP-SHIP/SHORE	19A	156.950 MHZ	8)	
156.975 MHZ	16K0F3EJN		INTERSHIP-SHIP/SHORE	79A	156.975 MHZ	2)	
157.025 MHZ	16K0F3EJN		INTERSHIP-SHIP/SHORE	80A	157.025 MHZ	2)	
157.075 MHZ	16K0F3EJN		INTERSHIP-SHIP/SHORE	81A	157.075 MHZ	9)	
157.100 MHZ	16K0F3EJN		INTERSHIP-SHIP/SHORE	22A	157.100 MHZ	2)3)10)	
157.125 MHZ	16K0F3EJN		INTERSHIP-SHIP/SHORE	82A	157.125 MHZ	8)	
157.175 MHZ	16K0F3EJN		INTERSHIP-SHIP/SHORE	83A	157.175 MHZ	8)	
157.200 MHZ	16K0F3EJN		SHIP/SHORE-PUBLIC CORRESP.	24	161.800 MHZ		
157.275 MHZ	16K0F3EJN		SHIP/SHORE-PUBLIC CORRESP.	85	161.875 MHZ		
157.300 MHZ	16K0F3EJN		SHIP/SHORE-PUBLIC CORRESP.	26	161.900 MHZ		
157.350 MHZ	16K0F3EJN		SHIP/SHORE-PUBLIC CORRESP.	27	161.950 MHZ		
157.425 MHZ	16K0F3EJN		SHIP/SHORE-PUBLIC CORRESP.	88	162.025 MHZ		

PORT OPERATIONS. 2) COMMERCIAL. 3) NON-COMMERCIAL. 4) NON-COMMERCIAL, RECREATIONAL CRAFT.
SHIP MOVEMENT (ST.LAWRENCE RV). 6) SHIP MOVEMENT SVC. 7) ERP NOT TO EXCEED 1 WATT. 8) COAST GUARD USE.
9) COAST GUARD (ANTI-POLLUTION). 10) COAST GUARD (COMMUNICATION BETWEEN COAST AND NON-COAST GUARD STNS).
SHIP STATIONS ARE AUTHORIZED TO USE ANY FREQUENCY AS DIRECTED BY FOREIGN COAST STATIONS FOR MARITIME
MOBILE SERVICE COMMUNICATIONS IN THE FREQUENCY BAND 156 TO 174 MHZ.
THIS STATION MUST BE OPERATED BY A PERSON HOLDING A CERTIFICATE IN RADIO APPROPRIATE FOR THE TYPE
OF SERVICE. --"LATEST REVISION DATE FEBRUARY 4, 1982"

CALL SIGN / INDICATIF D'APPEL	DATE OF ISSUE/DATE DE DÉLIVRANCE

MARCEL MASSE
MINISTER OF COMMUNICATIONS/MINISTRE DES COMMUNICATIONS

SEE REVERSE SIDE-VOIR AU VERSO

This licence authorizes the licensee to establish and operate a radio station as described in the approved application, in accordance with specified terms or conditions and applicable provisions of the Radio Act and its regulations. Except as provided in the regulations, no change in the apparatus or operations shall be made without the authority of the Minister of Communications, and the licensee shall notify the Department in writing upon a change of address.

The Department may, at a future date, require the licensee to install filters, tone coding devices, reduce the effective radiated power and/or antenna height as appropriate.

Service Category indicates the categories of service the station is authorized to perform and is used to determine the applicable fees as prescribed in the General Radio Regulations.

In many cases licence fees are related to the number of transmit and receive channels. A code, used in the "channel" column, indicates the number of equivalent voice channels as given in the following table:

Channel Code	1 to 9	A	B	C	D	E	F	G	Other Letters H, I, J, etc.
Equivalent No. of Voice Channels	1 to 9	10 to 24	25 to 60	61 to 120	121 to 300	301 to 600	601 to 960	961 to 1200	Measured in units of 300 channels

For further information regarding your radio licence please contact your nearest Department of Communications District Office. Copies of the Radio Act and Radio Regulations may be purchased from Printing and Publishing, Supply & Services Canada, Ottawa, Ontario, Canada K1A 0S9.

Cette licence autorise le titulaire à établir et à exploiter la station radio décrite sur la demande approuvée, aux conditions précisées et conformément aux dispositions pertinentes de la Loi sur la radio et de ses règlements d'exécution. À moins d'indication contraire dans les règlements, aucun changement ne doit être apporté à l'appareil ni au mode d'exploitation sans l'autorisation du ministre des Communications et le titulaire de la licence doit aviser par écrit le Ministère de tout changement d'adresse.

Le Ministère peut obliger ultérieurement le titulaire de la présente à installer des filtres et des codeurs de tonalité, ainsi qu'à réduire la puissance apparente rayonnée et (ou) la hauteur de l'antenne, selon le cas.

La partie "Catégorie de service" indique les catégories de service que la station est autorisée à fournir et sert à déterminer les droits à payer en vertu du Règlement général sur la radio.

Dans plusieurs cas, les droits de licence sont fonction du nombre de voies de transmission et de réception. Un code dans la colonne "voie" indique le nombre équivalent de voies téléphoniques comme suit:

Code de voie	1 à 9	A	B	C	D	E	F	G	Autres lettres H, I, J, etc.
Nombre équivalent de voies téléphoniques	1 à 9	10 à 24	25 à 60	61 à 120	121 à 300	301 à 600	601 à 960	961 à 1200	Mesuré par unité de 300 voies

Pour de plus amples renseignements, prière de communiquer avec le bureau de district du MDC le plus rapproché. On peut se procurer un exemplaire de la Loi sur la radio et du Règlement général sur la radio en s'adressant à l'Imprimerie du gouvernement canadien, ministère des Approvisionnements et Services, Ottawa (Ontario), Canada. K1A 0S9.

ATOR

LOWE-MARTIN No. 1137